

REMARKS

Reconsideration of the rejections of the claims is respectfully requested.

Claim Rejections under 35 U.S.C. § 112

Claim 20 was rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. The “Information for manufacturers Seeking Marking Clearance of Diagnostic Ultrasound Systems and Transducers” is not described in the specification. However, this claim language was filed with the application. The language is self-enabling. The “Information” statement is a known document provided to the FDA for ultrasound system and transducer approval. The specification does not need to describe the “Information” statement since a person of ordinary skill in the art knows of these documents and their contents.

Claims 1-38 and 48-59 were rejected under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential steps. The preambles of claims 1 and 48 were noted as generating a combined image, and the body of these claims were alleged to fail to positively set forth generation of a combined image. Claims 1 and 48 have been amended to indicate display of the combined image as a function of the first and second images.

The preamble of claim 28 was noted as being a method for ultrasound imaging, but the body of the claim was alleged to fail to set forth generating an ultrasound image. Claim 28 has been amended to indicate generation of an ultrasound image responsive to the pulse trains.

Claim Rejections under 35 U.S.C. § 103(a)

Claims 1-59 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent App. Pub. No. 2004/0267119 A1 (“Adams”) in view of U.S. 6,669,638 B1 (“Miller”).

The independent claims have been amended with limitations similar to dependent claim 37. Applicants respectfully request reconsideration of the rejections of

pending claims 1-2, 6-29, 33-34, 38-41, 46-49, and 53-59, including independent claims 1, 28, 39, 46, and 48.

Independent claims 1 and 48 recite, *inter alia*, generating transmit pulses at a predetermined voltage level for the first imaging mode; and generating transmit pulses at the predetermined voltage level for the second imaging mode, with a duty cycle selected in response to one or more of: a restriction on surface temperature of a transducer, and a restriction on transducer power output, wherein the transmit pulses of the first mode are a B-mode pulse train that includes at least two transmit cycles, and wherein the transmit pulses of the second mode are a color-mode pulse train that includes at least four transmit cycles. Adams and Miller do not disclose these limitations.

Adams discloses duplex and triplex modes of operation (paragraph 5). Only where one of the modes uses a lesser transmit power than provided by the power supply are the pulses of that mode pulse width modulated (paragraph 13). Color mode is the mode that uses a lesser transmit power, so would be associated with pulse width modulation (paragraph 6). Figures 2A-C represent this pulse width modulation (paragraphs 27-29). Adams provide for pulse width modulation of color pulse trains, such as represented in Figures 2A-C. The pulse for B-mode is not disclosed, but is likely the typical B-mode pulse less than two cycles. Adams does not provide for a B-mode pulse train that includes at least two transmit cycles.

Similarly, Adams does not disclose a color-mode pulse train of at least four transmit cycles. Figures 2A-C show two cycles for the color mode pulses.

Miller is cited for other reasons. Miller does not disclose a B-mode pulse train that includes at least two transmit cycles and does not disclose a color-mode pulse train that includes at least four transmit cycles.

Independent claims 28, 39, and 46 are allowable for similar reasons.

Dependent claims 2, 6-27, 29, 33-34, 40-41, 47, 49, and 53-59 each depend from one of the above independent claims and are allowable for at least the same

reasons as their respective base claim. Further features patentably distinguish from Adams, Miller, and combinations thereof. Examples are provided below.

Claim 38 recites filtering the received pulse train with a lower center frequency than a center frequency of the transmit pulse train. Adams and Miller do not disclose this limitation.

CONCLUSION

Applicants respectfully submit that all of the pending claims are in condition for allowance and seeks early allowance thereof. If for any reason, the Examiner is unable to allow the application but believes that an interview would be helpful to resolve any issues, he is respectfully requested to call the undersigned at 650-694-5810.

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